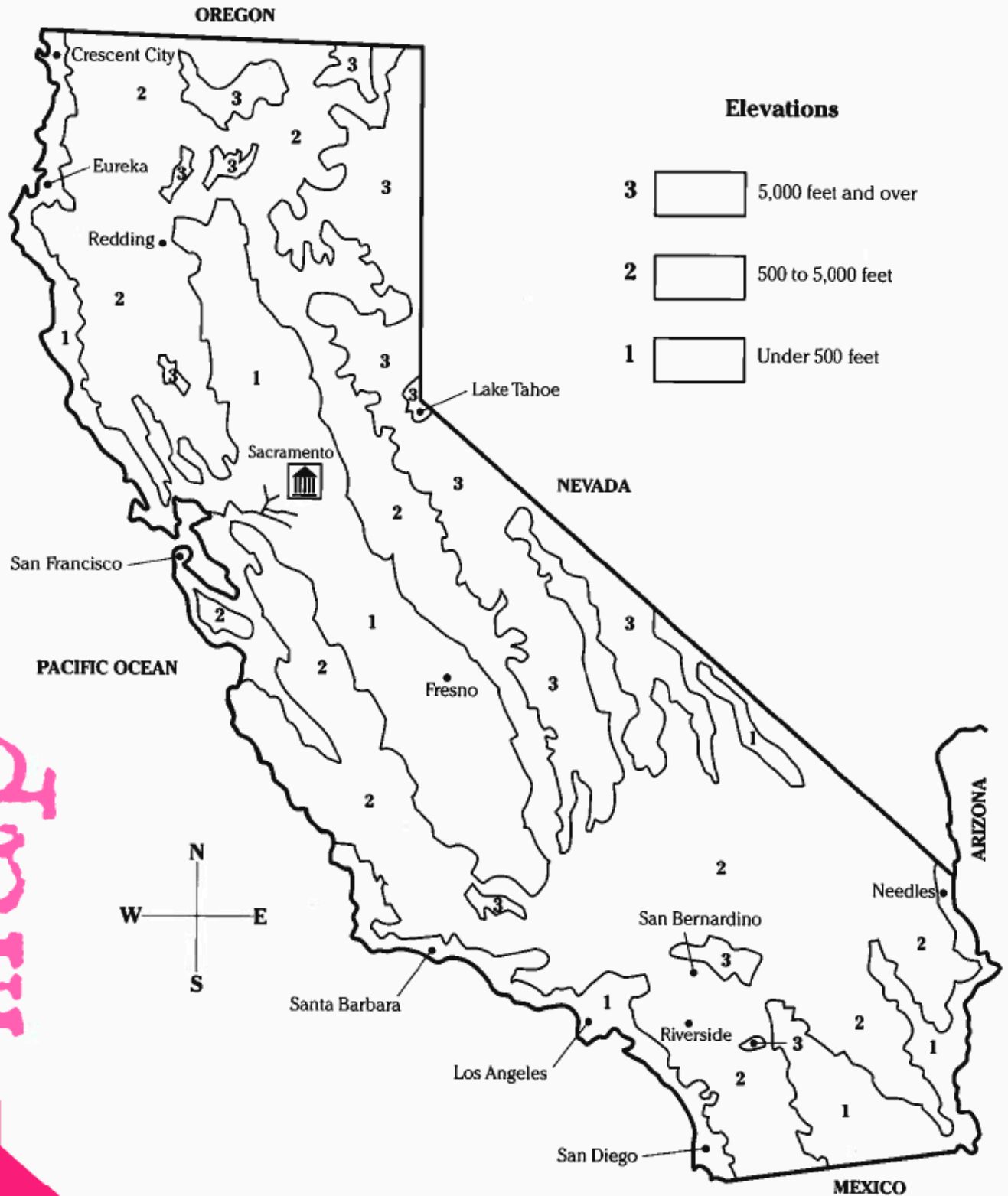


# 1

## Elevations & Directions



draw



# 1

## Elevations & Directions

Map #1 will help you learn many things about your state. Look carefully at the map and you will see some cities in California. You will also see the directions: north, south, east and west, the numbers 1, 2, 3 scattered all over the state, and a legend (or key) with boxes numbered 1 through 3 with elevations (where the mountains and valleys are located).

- I. Using crayons, colored pencils or markers, color in the areas of the map as follows:
1. all areas labeled "1" and box #1 (under 500 feet) color white or leave blank
  2. all areas labeled "2" and box #2 (500 to 5,000 feet) color light pink
  3. all areas labeled "3" and box #3 (5,000 feet and over) color dark pink

When you are finished, use the map to do the activities and answer the questions below.

- II. Look carefully at the arrows on your map which show the cardinal directions: north, south, east and west. Answer the following questions. (Circle the number of the answer you choose).
- A. I live in:
1. The northern part of California
  2. The central part of California
  3. The southern part of California
- B. To the west of California is:
1. Nevada
  2. Arizona
  3. the Pacific Ocean
  4. Oregon
- C. Lake Tahoe is mostly:
1. north of Los Angeles
  2. south of Los Angeles
  3. east of Los Angeles
- D. Fill in the blanks with "north," "south," "east" or "west":
1. If I want to go the mountains, I have to go \_\_\_\_\_.
  2. If I want to go the beach, I have to go \_\_\_\_\_ or \_\_\_\_\_.
  3. If I want to go to Mexico, I have to go \_\_\_\_\_.
  4. If I want to go to Arizona, I have to go \_\_\_\_\_.

questions



# 1

# questions



## Elevations & Directions

- E. If I took a bus from Los Angeles to Riverside, I would be going mostly:
1. from east to west
  2. from north to south
  3. from west to east
  4. from south to north
- F. If I got in a boat and sailed north along the California coast, I could get to:
1. Mexico
  2. Nevada
  3. Arizona
  4. Oregon
- III. With your teacher's help, use a more detailed map of California or an atlas to locate the city where you live.
- A. On your own copy of the map of California, draw a star (\*) in the exact location of your city and write the name of your city next to the star.
- B. Find the latitude and longitude of your city (to the nearest degree) and write the answer below:
- \_\_\_\_\_° latitude                      \_\_\_\_\_° longitude
- IV. Look carefully again at the arrows which show the cardinal directions: north, south, east and west. These arrows also help you find "secondary" directions. For example:
- The direction between the N and the E is **northeast**.  
The direction between the S and the E is **southeast**.  
The direction between the S and the W is **southwest**.  
The direction between the N and the W is **northwest**.
- Use this information to answer the following questions.  
(Circle the number of the answer you choose.)
- A. San Francisco is:
1. northwest of Eureka
  2. northeast of Eureka
  3. southwest of Eureka
  4. southeast of Eureka

# 1

# questions



## Elevations & Directions

- B.** Lake Tahoe is:
1. northwest of Fresno
  2. northeast of Fresno
  3. southwest of Fresno
  4. southeast of Fresno
- C.** San Diego is:
1. northeast of Los Angeles
  2. west of Los Angeles
  3. northwest of Los Angeles
  4. southeast of Los Angeles
- V.** Look carefully at the map legend for elevations which show where mountains and valleys are located. Answer the following questions. (Circle the number of the answer you choose.)
- A.** Most of the tallest mountains in California are located in:
1. the southwest
  2. the southeast
  3. the northeast
  4. the northwest
- B.** In California, snow falls mostly in the mountains at high elevations. In winter, there is probably more snow in:
1. Northern California
  2. Southern California
- C.** When the snow melts, there is probably more water in:
1. Northern California
  2. Southern California
- D.** Since most of our surface water comes from rain and snow which runs off of mountains, the driest part of California is probably:
1. the northeastern part
  2. the northwestern part
  3. the southeastern part
  4. the southwestern part

## Elevations & Directions

- E. Complete the table below by grouping the cities on the map by their elevations.

Under 500 feet	500 to 5,000 feet	5,000 feet and over
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- VI. Study Map #1 to complete the following exercises.

- Take a trip! Plan a trip from your city to Lake Tahoe. You have to walk, so draw little blue dots on your map to show your footsteps as you travel. Remember, it's hard and tiring to walk over mountains, so go around them whenever you can...or at least go over the lowest parts.
- Take a trip to Needles following the same instructions as above (use red dots for this trip).
- Take a trip to Oregon following the same instructions as above (use green dots for this trip).
- Choose the trip you enjoyed the most (from question A, B or C) and write a paragraph describing the other cities you passed, elevations, and the direction you traveled (use a separate piece of paper for your answer.)

# Elevations & Directions

# puzzlers



**A.** Unscramble the names of these California cities:

1. CROTASNEMA \_\_\_\_\_
2. TASNA RABRABA \_\_\_\_\_
3. NAS GIDEO \_\_\_\_\_
4. SNA NICACOFRS \_\_\_\_\_
5. SOL SEEGNAL \_\_\_\_\_
6. KAEERU \_\_\_\_\_

**B.** Now, arrange the unscrambled cities in order from North to South.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

NORTH



SOUTH

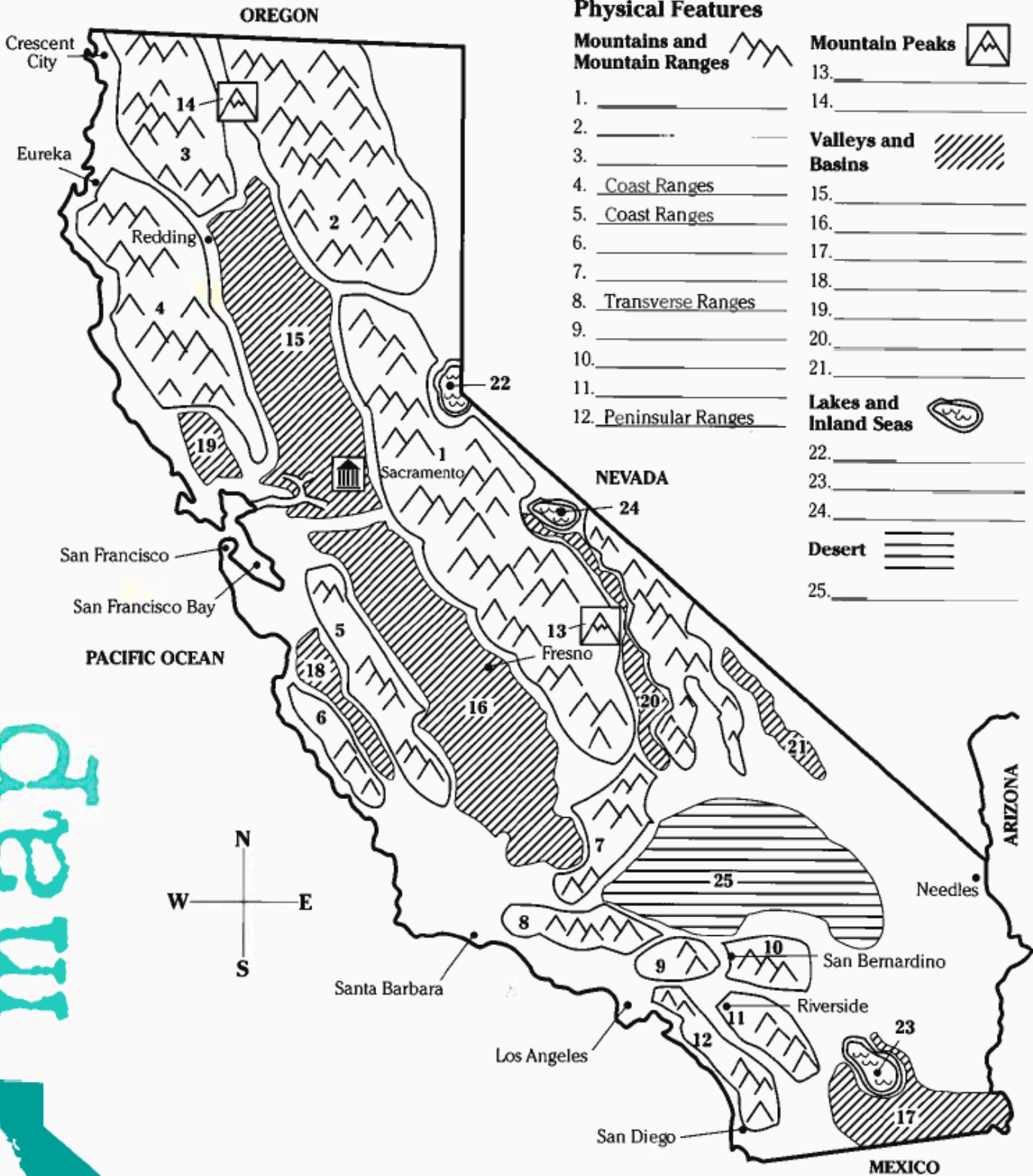
**C.** Unscramble the names of these places which are located to the North, South, East and West of California:

1. NOZIARA \_\_\_\_\_
2. NOGORE \_\_\_\_\_
3. DENAVA \_\_\_\_\_
4. COXEMI \_\_\_\_\_
5. FAPCICI NEOCA \_\_\_\_\_

**D.** Now arrange the unscrambled places according to whether they are North, South, East or West of California:

1. EAST \_\_\_\_\_ and \_\_\_\_\_
2. SOUTH \_\_\_\_\_
3. NORTH \_\_\_\_\_
4. WEST \_\_\_\_\_

## Physical Features



### Physical Features

#### Mountains and Mountain Ranges

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. Coast Ranges
- 5. Coast Ranges
- 6. \_\_\_\_\_
- 7. \_\_\_\_\_
- 8. Transverse Ranges
- 9. \_\_\_\_\_
- 10. \_\_\_\_\_
- 11. \_\_\_\_\_
- 12. Peninsular Ranges

#### Mountain Peaks

- 13. \_\_\_\_\_
- 14. \_\_\_\_\_

#### Valleys and Basins

- 15. \_\_\_\_\_
- 16. \_\_\_\_\_
- 17. \_\_\_\_\_
- 18. \_\_\_\_\_
- 19. \_\_\_\_\_
- 20. \_\_\_\_\_
- 21. \_\_\_\_\_

#### Lakes and Inland Seas

- 22. \_\_\_\_\_
- 23. \_\_\_\_\_
- 24. \_\_\_\_\_

#### Desert

- 25. \_\_\_\_\_







## Physical Features

With Map #1, you learned where California is in relation to Oregon, Nevada, Arizona, Mexico and the Pacific Ocean. You also learned where some of California's cities are in relation to one another. And, you learned where California's major mountains and valleys are located (elevations). Now, you are ready to learn the names of some of California's important physical features.

- I. On Map #2, you will find the numbers 1 through 25 scattered all over the state. You will also see five different symbols:

-  means these features are mountain ranges
-  refers to mountain peaks
-  shows valleys and basins
-  refers to lakes & inland seas
-  shows deserts

Using crayons, colored pencils or markers, color in the areas of the map as follows:

1. all areas labeled " " (mountains & mountain ranges) color light orange
2. all areas labeled " " (valleys & basins) color light green
3. all areas labeled " " (lakes & inland seas) color light blue
4. all areas labeled " " (deserts) color light gray

When you are finished coloring, look at the following list of physical features (this list is not in order, but it will help you identify the items in an atlas and on your map).

- |                         |                          |
|-------------------------|--------------------------|
| Salton Sea              | San Bernardino Mountains |
| Peninsular Ranges       | Owens Valley             |
| Transverse Ranges       | Cascade Range            |
| Sacramento Valley       | Coast Ranges (1)         |
| Mono Lake (Mōno)        | Coast Ranges (2)         |
| Mount Whitney           | Santa Lucia Mountains    |
| Death Valley            | Salinas Valley           |
| Sierra Nevada Mountains | Mount Shasta             |
| San Joaquin Valley      | Mojave Desert            |
| Lake Tahoe              | Klamath Mountains        |





## Physical Features

Imperial Valley  
Napa Valley  
San Jacinto Mountains

Tehachapi Mountains  
San Gabriel Mountains

Using an atlas, identify the numbered features on Map #2 and fill in the blanks with the correct names of the physical features. To help you get started, the names of four mountain ranges have already been filled in. When you have finished filling in the blanks, you will be able to answer the questions in Parts II through V.

- II.** Use your completed map to answer the following questions. (Circle the number of the answer you choose.)
- A.** California's major desert area is located:
1. in Northern California
  2. in Central California
  3. in Southern California
  4. on the coast
- B.** Mono Lake is located at the northern end of \_\_\_\_\_ Valley.
- C.** There are two large valleys in Central California. One is northeast of San Francisco; it is called the \_\_\_\_\_ Valley. The other is southeast of San Francisco; it is called the \_\_\_\_\_ Valley.
- D.** The Salton Sea is located in:
1. Imperial Valley
  2. Owens Valley
  3. San Joaquin Valley
  4. Sacramento Valley
- III.** Look carefully at the mountains and valleys on your completed map and answer the following questions.
- A.** List the mountain ranges surrounding the San Joaquin Valley.  
\_\_\_\_\_
- B.** Which mountain peak is at the northern end of the Sacramento Valley?  
\_\_\_\_\_
- C.** The Owens Valley is on the southeastern side of the:
1. Sierra Nevada Mountains
  2. San Jacinto Mountains
  3. San Gabriel Mountains
  4. Peninsular Ranges



## Physical Features

- D. With the help of your classroom atlas, find the highest and lowest physical features in California. Write the name and elevation in the spaces below:

Highest Physical Feature \_\_\_\_\_ Elevation \_\_\_\_\_

Lowest Physical Feature \_\_\_\_\_ Elevation \_\_\_\_\_

- E. Complete the table below using your classroom atlas. Find the latitude and longitude of the following features (to the nearest degree):

	Latitude	Longitude
San Gabriel Mountains		
Mount Shasta		
Mono Lake		

- IV. Compare Map #2 with Map #1 and answer the following questions. (Circle the number of the answer you choose.)

- A. Sacramento Valley, San Joaquin Valley and Imperial Valley are all located at elevations of:
1. 5,000 feet and over
  2. 500 to 5,000 feet
  3. under 500 feet
- B. The Sierra Nevada Mountains reach elevations of more than 5,000 feet.
1. True
  2. False
- C. The Coast Ranges generally reach elevations of:
1. Under 500 feet
  2. 500 to 5,000 feet
  3. 5,000 feet and over
- D. Salinas Valley and Napa Valley are both:
1. over 500 feet in elevation
  2. under 500 feet in elevation
  3. 500 to 5,000 feet in elevation
  4. over 5,000 feet in elevation



## Physical Features

- E.** Since water runs downhill (from higher elevations to lower elevations), the “runoff” of rain and melted snow from the southeastern side of the Sierra Nevada Mountains probably flows into:
1. Sacramento Valley
  2. Owens Valley
  3. Napa Valley
  4. Salinas Valley
- F.** Much of California’s water supply comes from melting snow which runs off of the highest mountains and down into the lowest valleys. Which of the cities below do you think receives the most water from surface runoff from nearby mountains?
1. San Diego
  2. San Francisco
  3. Sacramento
  4. Los Angeles
- V.** Look carefully at your completed Maps #1 and #2 and answer the following questions.
- A.** Use the list below to complete the table. Group these physical features according to their location in either Northern California, Central California or Southern California.

Cascade Range, San Bernardino Mountains, Lake Tahoe, Salton Sea, Napa Valley, San Joaquin Valley, Tehachapi Mountains, Mojave Desert

Northern California	Central California	Southern California





## Physical Features

- B.** Using the answers in A - E below, fill in the blanks in the sentences by writing the correct letter in each space.
1. Sacramento, the state capital of California, is located \_\_\_\_\_.
  2. Lake Tahoe is located \_\_\_\_\_.
  3. San Francisco is located \_\_\_\_\_.
  4. Santa Barbara is located \_\_\_\_\_.
  5. The Salton Sea is located \_\_\_\_\_.
  6. San Diego is located \_\_\_\_\_.
  7. Mount Shasta is located \_\_\_\_\_.
  8. Fresno is located \_\_\_\_\_.
- A.** in a valley in Central California  
**B.** in a valley in Southern California  
**C.** near the coast of Southern California  
**D.** near the coast of Northern California  
**E.** in the mountains in Northern California

## Physical Features

**KEY:** A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

**A.** Use the key above to break the code and complete the following sentences.

**1.** In Southern California there is a large dry area called the:

\_\_\_\_\_  
13 15 10 1 22 5 4 5 19 5 18 20

**2.** The highest temperature ever recorded in the United States, 134 degrees Fahrenheit, was registered in:

\_\_\_\_\_  
4 5 1 20 8 22 1 12 12 5 25

**3.** California's tallest mountain is 14,495 feet high and is known as:

\_\_\_\_\_  
13 15 21 14 20 23 8 9 20 14 5 25

**4.** The largest "saline" lake (a lake with salty water) in California is the:

\_\_\_\_\_  
19 1 12 20 15 14 19 5 1

**B.** Use the key to write your own map-related decoder message.

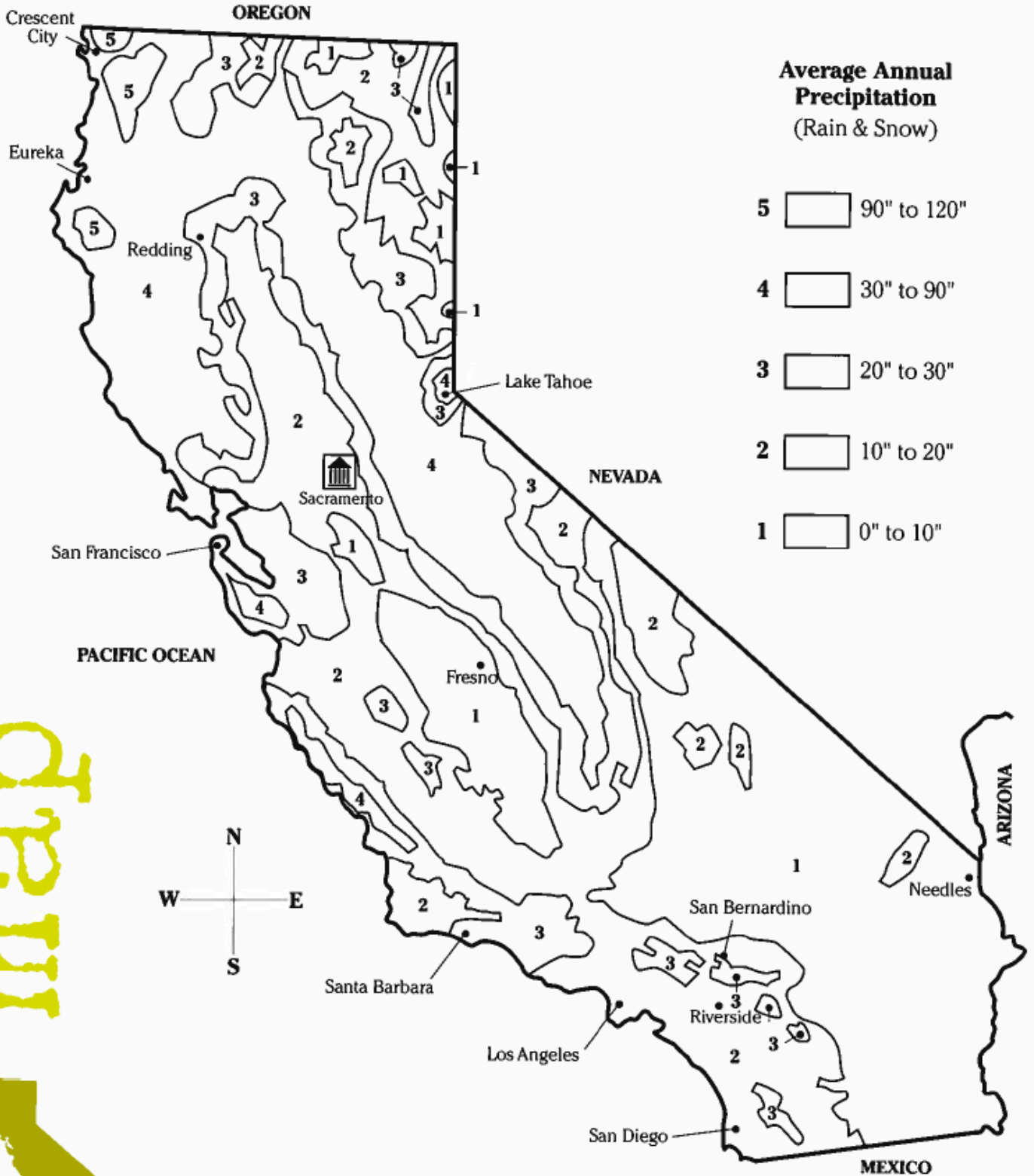
**C.** Use the legend from Map #2 to find the names of the seven valleys and basins in this word search. The names might be found across, backwards, up and down, or diagonal.

S S D G K H T A E D  
T A J D O U B C L E  
H N C S T W Z A I S  
F J G R L G I F M A  
A O I T A R N Q E N  
R A B Y E M Z K U I  
I Q S P H B E C G L  
E U M U A P A N O A  
W I X I J C D P T S  
A N Z O V S N E W O



# 3

## Precipitation



## Precipitation

Now that you have learned some things about California's location and physical features from Maps #1 and #2, you are ready to learn about precipitation in our state. "Precipitation" (PREE-SIP-UH-TAY-SHUN), refers to moisture which falls to the earth. It can be rain, snow, sleet, hail or even mist. Different amounts of precipitation fall on different parts of our state.

- I. On Map #3, you will find the numbers 1 through 5 scattered all over the state. You will also find a legend (or "key") with boxes numbered 1 through 5 and amounts of precipitation (in inches). Using crayons, colored pencils or markers color in the areas of the map as follows:
  1. all areas labeled "1" and box #1 (0" to 10") color white or leave blank
  2. all areas labeled "2" and box #2 (10" to 20") color light green
  3. all areas labeled "3" and box #3 (20" to 30") color dark green
  4. all areas labeled "4" and box #4 (30" to 90") color light blue
  5. all areas labeled "5" and box #5 (90" to 120") color dark blue

When you have completely colored the map, you will have a clear idea of where different amounts of precipitation fall in our state over the period of one year.

- II. Use your finished map to answer the following questions. (Circle the number of the answer you choose.)
  - A. Most of California's rain and snow falls in the:
    1. southeast
    2. northwest
    3. southwest
  - B. California's largest "dry" area is in the:
    1. northeast
    2. southwest
    3. southeast
  - C. How much precipitation does the region from San Francisco to the Oregon border receive per year?
    1. 0" to 10"
    2. 10" to 20"
    3. 20" to 30"
    4. 30" to 90"



## Precipitation

- D. Precipitation amounts in the region between Los Angeles and the Mexican border are about:
1. 10" to 20" per year
  2. 20" to 30" per year
  3. 30" to 90" per year
  4. 90" to 120" per year
- E. Complete the table below by filling in the amount of average annual precipitation received by each city.

City	Average Annual Precipitation (")
Eureka	
Crescent City	
Redding	
Lake Tahoe	
Sacramento	
San Francisco	
Fresno	
Santa Barbara	
Los Angeles	
San Bernardino	
Riverside	
San Diego	
Needles	

- F. Now make a new list. This time list the cities in order of the amounts of precipitation received yearly. List the cities with the highest amounts of precipitation first then down to the lowest amounts. (Some cities will have the same amount of precipitation; in this case, list those cities in alphabetical order.)

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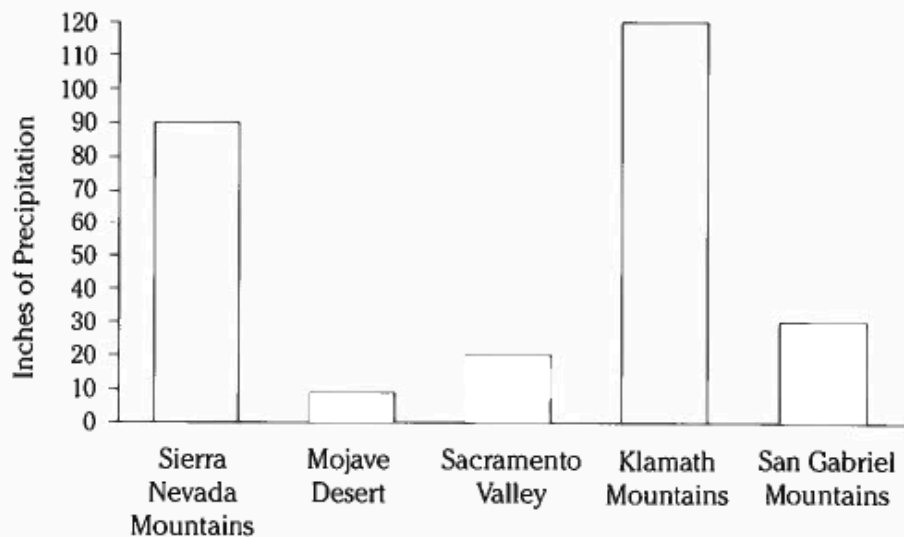
## Precipitation

# questions

- III.** Compare Maps #1, #2 and #3 in order to answer the following questions. (Circle the number of the answer you choose.)
- A.** Most of the rain and snow in California falls:
1. in the valleys
  2. on the mountains
  3. in the desert
  4. on the southern coast
- B.** Of the mountain ranges listed below, the one which receives the most precipitation is the:
1. Tehachapi Mountains
  2. San Bernardino Mountains
  3. Sierra Nevada Mountains
  4. Peninsular Ranges
- C.** Which of the valleys listed below receives the least amount of precipitation per year?
1. Napa Valley
  2. Sacramento Valley
  3. San Joaquin Valley
  4. Salinas Valley
- IV.** Continue to use Maps #1, #2 and #3 to answer the following questions. (Circle the number of the answer you choose.)
- A.** The “wettest” city shown on Map #3 is:
1. Sacramento
  2. Los Angeles
  3. San Diego
  4. San Francisco
- B.** In order to send water in an aqueduct from the wettest part of the state to the driest part of the state, you would send it:
1. from east to west
  2. from north to south
  3. from west to east
  4. from south to north

## Precipitation

- C. Since water runs downhill and finally out to the ocean, most of the runoff from the northeastern part of California flows down into the Sacramento Valley and runs out to sea near:
1. San Diego
  2. Los Angeles
  3. San Francisco
  4. Riverside
- D. If you lived in San Francisco and needed a lot of water, the nearest place to find it would be:
1. the Sierra Nevada Mountains
  2. the San Joaquin Valley
  3. the Sacramento Valley
  4. Death Valley
- E. If you were a farmer, the place where precipitation (instead of irrigation) would be most likely to water your crops would be:
1. Imperial Valley
  2. San Joaquin Valley
  3. Sacramento Valley
  4. Death Valley
- V. Compare Maps #2 and #3. Complete the chart by coloring the columns (bars) according to amount of rainfall by location. (Color the columns the same as the legend on your map; for example 0" to 10" would be colored white or left blank).



## Precipitation

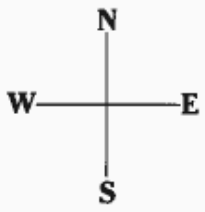
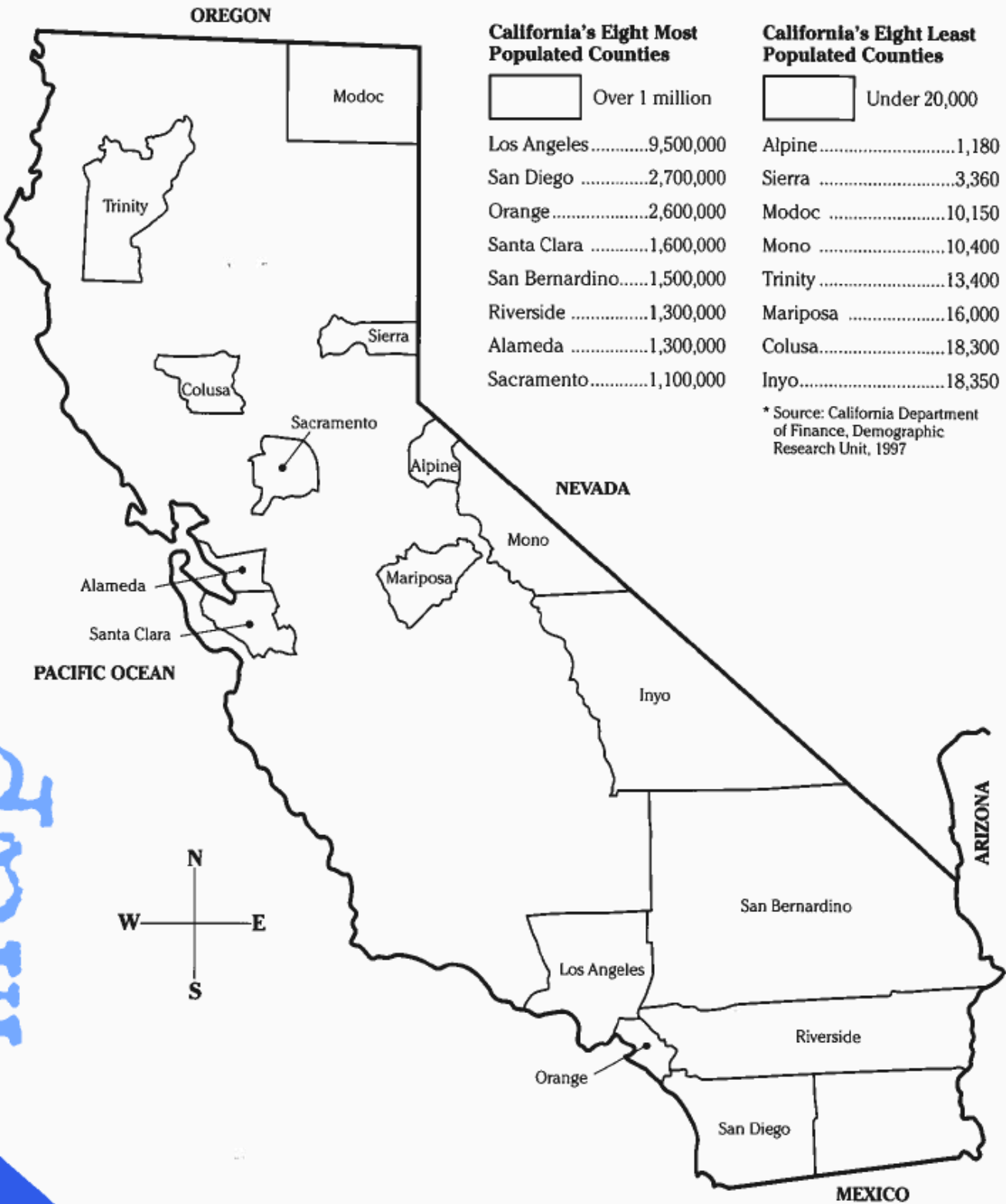
Use Maps #1, #2 and #3 and A through E below to complete the paragraphs. Be sure to use information from all of the maps (including elevation, location, precipitation).

1. The San Joaquin Valley is located between the \_\_\_\_\_ to the east and the Coast Ranges to the \_\_\_\_\_. The elevation of the \_\_\_\_\_ is \_\_\_\_\_. This location receives between \_\_\_\_\_ of precipitation each year.
2. \_\_\_\_\_ is a coastal city just \_\_\_\_\_ of the Mexican border. This city receives an average of \_\_\_\_\_ of precipitation each year.
3. Sacramento is located \_\_\_\_\_ of San Francisco. The elevation of this city is \_\_\_\_\_, and the average annual precipitation is \_\_\_\_\_.
4. The elevation of the \_\_\_\_\_ is 500 to 5,000 feet. Parts of this mountain range receive between \_\_\_\_\_ of annual precipitation. The Oregon border is \_\_\_\_\_ of these mountains and the Cascade Ranges are located to the \_\_\_\_\_.
5. Lying near the California/Nevada border is \_\_\_\_\_. Just \_\_\_\_\_ of the Owens Valley, this lake lies at an elevation of \_\_\_\_\_.

Use A through E to fill in the blanks above.

- A. Mono Lake
- B. Sacramento
- C. San Diego
- D. San Joaquin Valley
- E. Klamath Mountains

## Population



## Population

In Maps #1, #2 and #3, you learned many important things about California's "physical geography." A state's climate and physical features influence where people choose to live within the state and the kinds of jobs and businesses which are found in various areas. Now you are ready to study California's "human geography" – that is, where the more than 32,000,000 people in our state choose to live.

- I. The areas outlined and labeled on Map #4 show 16 of California's 58 counties. The map legend shows the state's eight **most** populated and eight **least** populated counties. Using crayons, colored pencils or markers, color the counties with populations over 1 million dark blue and the counties with populations under 20,000 light blue.
- II. Use your finished map to answer the questions below:
  - A. How many of the **most** populated counties are in Southern California?  
\_\_\_\_\_
  - B. How many of the least populated counties are in Northern and Central California?  
\_\_\_\_\_
  - C. If you lived in the county on the map with the smallest population, you would live in \_\_\_\_\_ county.
  - D. If you lived in the county on the map with the largest population, you would live in \_\_\_\_\_ county.
  - E. Of the three Southern California counties listed below, which has the least population? (Circle the number of the answer you choose.)
    1. San Diego County
    2. Riverside County
    3. Los Angeles County
  - F. About how many people live in the county where our state capital is located?  
\_\_\_\_\_



**III.** Use the population information on Map #4 to come up with the correct figures to write in the spaces for the questions below.

**A.** About how many people live in these five Northern California counties combined? (Write the correct figures for each county in the spaces below and add them up.)

Sacramento County	_____
Alameda County	+ _____
Santa Clara County	+ _____
Modoc County	+ _____
Trinity County	+ _____
	= _____

**B.** About how many people live in these five Southern California counties combined? (Write the correct figures for each county in the spaces below and add them up.)

Los Angeles County	_____
San Bernardino County	+ _____
Orange County	+ _____
Riverside County	+ _____
San Diego County	+ _____
	= _____

**C.** Using your answers from question A (Northern California) and question B (Southern California), which statement is true?

1. More people live in Northern California.
2. More people live in Southern California.

**D.** If the total population of California is approximately 32,000,000 people and about 9,500,000 live in Los Angeles County, what percent of the total population of California live in Los Angeles County? (Complete the formula and fill in the blank.)

$$\frac{9,500,000}{32,000,000} = \underline{\hspace{2cm}} \% \quad \frac{9,500,000}{32,000,000} = 32 \overline{)9.50}$$

**IV.** Compare Map #4 with Maps #1, #2 and #3 to answer the following questions.

**A.** What is the elevation of the most populated Northern California county?

\_\_\_\_\_



- B.** Look at your answers to questions IIIA and IIIB. Find the Tehachapi Mountains on Map #2 and complete the following sentence:  
More than 1/2 of California's total population of about 32,000,000 people live:
1. north of the Tehachapi Mountains
  2. south of the Tehachapi Mountains
  3. east of the Tehachapi Mountains
  4. on top of the Tehachapi Mountains
- C.** Together, Alameda County and Santa Clara County have a total population of about 2,900,000. These counties are in an area which usually receives about how much average annual precipitation?
1. 0" to 10"
  2. 30" to 90"
  3. 10" to 20"
  4. 20" to 30"
- D.** Together, Los Angeles County, Orange County and San Diego County have a total population of about 14,800,000. These counties are all in a region which receives about how much average annual precipitation?
1. 10" to 20"
  2. 0" to 10"
  3. 20" to 30"
  4. 90" to 120"
- E.** From the answers to questions "C" and "D" above, we can say that, in California, more people live:
1. where it is wet and rainy.
  2. in the high mountains.
  3. near the state capital.
  4. in regions with less precipitation.
- V.** Use an atlas to answer the following question:
- A.** Located in Mono County lies a lake with the same name. Use your atlas to find the latitude and longitude of Mono Lake (to the nearest degree).

\_\_\_\_\_ ° latitude

\_\_\_\_\_ ° longitude



**“Where in California are you?”**

The following paragraphs describe some of the counties shown on Map #4. Read each description carefully and use the information from Maps #1, #2, #3 and #4 to fill in the blanks.

1. Situated between the Sierra Nevada Mountains to the east and the San Francisco Bay area to the southwest, this county offers a pleasant climate with only 10" to 20" of precipitation each year. With a population of about 1,100,000 people, this is an exciting county to live in because the state capital is located here.

**I'm in \_\_\_\_\_ County.**

2. Located on the Southern California coast, this county ranges in elevation from under 500 feet to about 5,000 feet. The landscape includes beautiful beaches to the southwest and the San Gabriel Mountains to the northeast. Precipitation in this county averages only 10" to 20" per year. With a population of about 9,500,000 people, this county offers a wide range of employment, entertainment and cultural opportunities.

**I'm in \_\_\_\_\_ County.**

3. Located in the north corner of California, this county shares a border with Oregon and Nevada. Elevation in this county ranges from 500 feet to over 5,000 feet. Precipitation also varies greatly with areas receiving from 0" to 30" per year. The population of this county is only about 10,150 people.

**I'm in \_\_\_\_\_ County.**

4. The eastern half of this Southern California county receives 0 to 10 inches of annual precipitation, and the western half receives 10" to 20". This county reaches all the way from the San Jacinto mountains in the west to the Arizona border in the east, and the northern tip of the Salton Sea is located here. This is a fast-growing county with a population of about 1,300,000 people.

**I'm in \_\_\_\_\_ County.**





# 4

## Population

5. Sharing a border with Mexico, this county's landscape includes many beautiful beaches. About 2,700,000 people make their home in this county. The elevation is below 500 feet and annual precipitation is between 10" to 20".

**I'm in \_\_\_\_\_ County.**

6. This county touches the southern tip of the San Francisco Bay, and is north of the Salinas Valley and west of the San Joaquin Valley. Elevations range from under 500 feet to 5,000 feet. Annual precipitation is between 20" to 30". About 1,600,000 Californian's live in this county.

**I'm in \_\_\_\_\_ County.**

puzzlers



## Industry & Agriculture



## Industry & Agriculture

Map #5 will inform you about California's economy, especially about industry and agriculture, which are two very important parts of the economy of our state. There are 58 counties in California and each one is important. However, the map only shows 17 of the state's counties. These are the counties which contribute most to California's economy through agriculture and industry. Agriculture is the growing of food and other natural products for animals and people. Industry is the making of things which people use.

If you look carefully at the map, you will see that there are ten counties listed under "Industrial Expansion." These are the top ten counties in the state which have the fastest-growing industries. You will also find ten counties listed under "Agriculture." These are the top ten counties in California for agricultural production. Some counties are in the top ten in both industry and agriculture.

As you can see, California has a lot of industry and agriculture. In fact, of all the 50 states of the United States, California is number one in both industry and agriculture. And, if California were a country, it would be *number seven out of all the countries in the world* in terms of the value of its industries and agriculture.

- I. To make your map even easier to understand, put a star (\*) next to the counties which have **both** agriculture **and** industry. Next, color all of the top agricultural counties light orange, and color all the top industrial counties dark orange. For those counties which are in the top ten in both agriculture and industry, color half of the county light orange and half dark orange.
- II. Study your completed Map #5 carefully in order to answer the questions below.
  - A. How many of the counties on the map are in the top ten in **both** agriculture **and** industry? \_\_\_\_\_
  - B. List the counties on the map that are in the top ten in **both** agriculture **and** industry.  
\_\_\_\_\_
  - C. Most of the big agricultural and industrial counties in California are:
    1. south of Sacramento
    2. north of Sacramento



## Industry & Agriculture

- III.** Listed below are the top ten "Agricultural" counties along with the dollar amounts of annual production. Put the correct rank on the blank space provided next to the county. For example, the county with the highest production should be numbered "1", and the county with the lowest should be numbered "10".

_____	Imperial County	\$ 956,521,000
_____	Stanislaus County	\$ 1,233,196,000
_____	Kern County	\$ 2,067,028,000
_____	Riverside County	\$ 1,141,820,000
_____	San Diego County	\$ 1,114,104,000
_____	Merced County	\$ 1,429,918,000
_____	Fresno County	\$ 3,313,426,000
_____	Monterey County	\$ 1,934,907,000
_____	Tulare County	\$ 2,801,921,000
_____	San Joaquin County	\$ 1,351,530,000

**Extra Credit** (Add the total production of the top ten agricultural counties.) \$ \_\_\_\_\_

- IV.** Compare Map #5 with Maps #1, #2, #3 and #4 and answer the questions below. (Circle the number of the answer you choose.)
- A.** All of the counties which are in the top ten in both "Agriculture" and "Industrial Expansion" are located mostly at:
1. lower elevations (under 5,000 feet)
  2. higher elevations (5,000 and over)
- B.** California's top three agricultural counties all include parts of:
1. Owens Valley
  2. Sacramento Valley
  3. Death Valley
  4. San Joaquin Valley
- C.** California's top three fastest-growing industrial counties are located: (Refer to your map legend to help answer this question.)
1. on the western side of the state
  2. on the eastern side of the state
  3. in the Sacramento Valley
  4. in Napa Valley

## Industry & Agriculture

- D.** Match these three important agriculture-producing counties with the physical features below. (Write the correct letters in the spaces.)
- |                          |                            |
|--------------------------|----------------------------|
| 1. Kern County ____      | a. Pacific Ocean coastline |
| 2. Monterey County ____  | b. San Jacinto Mountains   |
| 3. Riverside County ____ | c. Tehachapi Mountains     |
- E.** How many of California's counties with the fastest-growing industries are located south of the Tehachapi Mountains? \_\_\_\_\_
- F.** The majority of the ten counties with the biggest agricultural production are located in areas which mostly receive:
1. 0" to 20" of precipitation each year
  2. 20" to 30" of precipitation each year
  3. 30" to 90" of precipitation each year
  4. 90" to 120" of precipitation each year
- G.** The Southern California county which has the largest population and the fastest-growing industries is :
1. Modoc County
  2. Orange County
  3. Santa Clara County
  4. Los Angeles County

# Industry & Agriculture

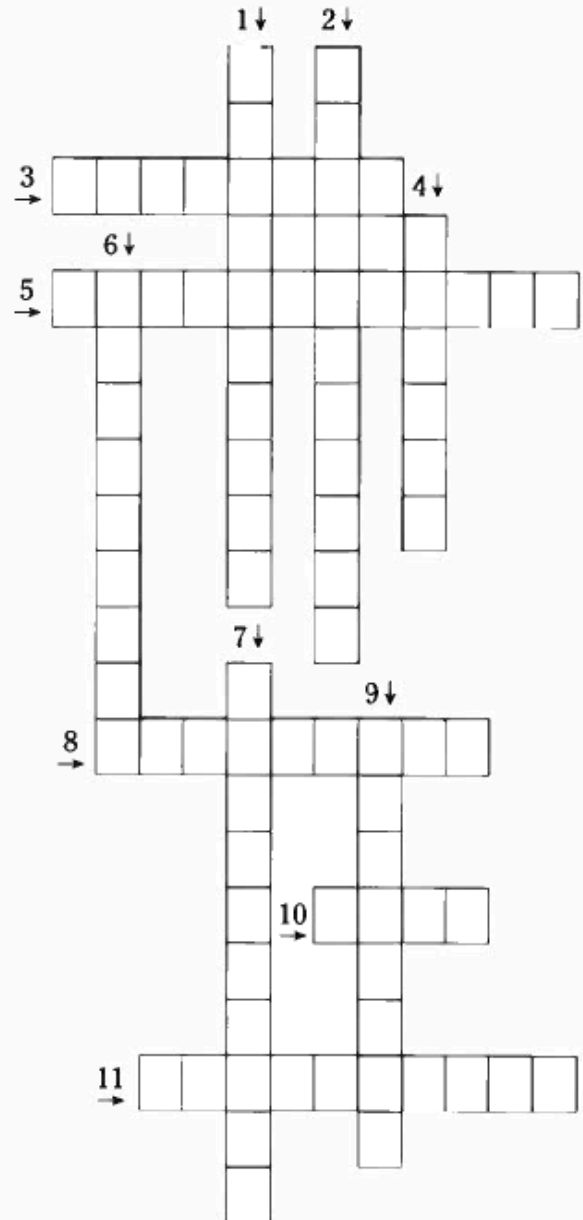
# puzzlers

## ACROSS:

3. The making of things which people use
5. #1 in agricultural production
8. The act of growing larger
10. The Tehachapi Mountains are located in this county.
11. This county is #6 in agriculture.

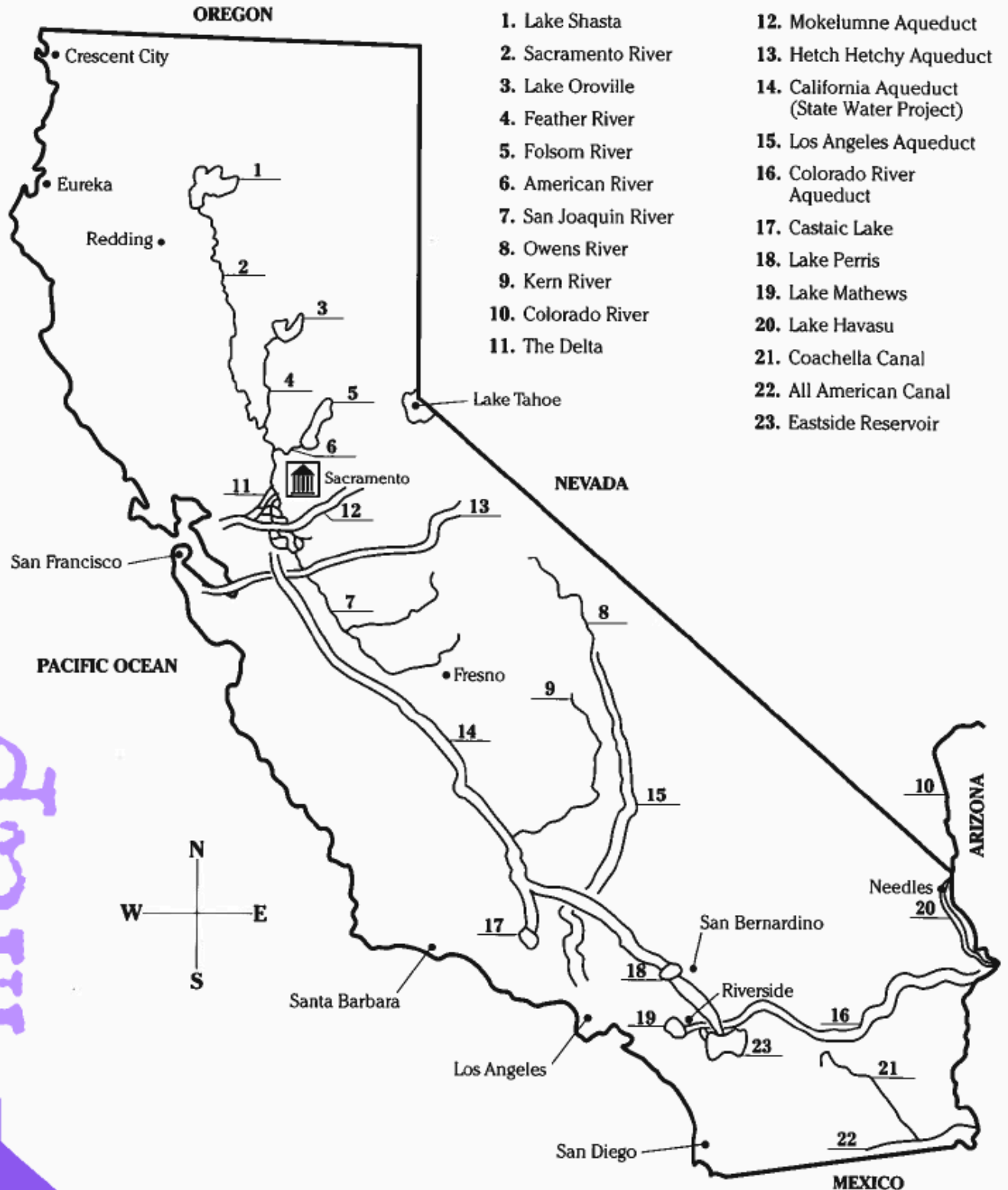
## DOWN:

1. The #1 county in industry
2. The growing of food and other natural products
4. The #2 county in agriculture
6. A "dry" county which is #8 in agriculture.
7. County where our state capitol is located.
9. This agricultural county is on the border with Mexico.



# 6

## Managing California's Water



# 6

## Managing California's Water

You have learned a lot of facts about California's physical and human geography by studying Maps #1 through #5. However, those facts should also make you ask a lot of questions.

**FACT:** Most of California's precipitation takes place at higher elevations.

**QUESTION:** How is it possible for most of California's population, agriculture and industry to be located at the lower elevations?

**FACT:** Most of the precipitation in California falls in the northern areas.

**QUESTION:** Since people need adequate supplies of water every day, how can the majority of the people live in the southern part of the state where there is very little precipitation?

**FACT:** The driest areas and lowest elevations in California are located in the central and southern parts of the state.

**QUESTION:** Since industry and agriculture require large amounts of water, how can so much agriculture and industrial expansion take place in the drier parts of the state?

Map #6 will help you answer these questions by illustrating and explaining how California's water is managed.

- I. Look carefully at Map #6. Match the numbers on the map to the features listed on the map legend. Notice that some of the features are lakes, some are rivers, and some are water delivery systems (aqueducts and canals). Using crayons, colored pencils or markers, color the features on the map as follows:

**Lakes and Reservoirs** – color light blue

(The Eastside Reservoir Project [#23], scheduled for completion in 1999, is the newest part of Southern California's extensive water management system. When completed, this reservoir will be filled with water from the Colorado River Aqueduct and the California Aqueduct.)

**Rivers** – color dark blue

(Draw blue lines right over the black lines on the map which represent rivers.)

**Mokelumne (MOE-KELL-UM-NEE) Aqueduct** – color light orange

**Hetch Hetchy Aqueduct** – color dark orange

**California Aqueduct** – color light purple

(Don't miss the two branches of this aqueduct in Southern California.)

**Los Angeles Aqueduct** – color dark purple

**Colorado River Aqueduct** – color light pink

questions





## Managing California's Water

**All-American Canal** – color dark pink

**Coachella Canal** – color black

**The Delta** – color grey

(The Delta [#11] is a special place in California. It is where the Sacramento and the San Joaquin rivers come together and form many channels and waterways before they flow out into San Francisco Bay and the Pacific Ocean.)

- II.** Compare Map #6 with Map #1 and answer the following questions. (Circle the number of the answer you choose.)
- A.** Most of the large rivers within California begin:
1. in the desert at low elevations.
  2. on the coastline at low elevations.
  3. in the mountains at high elevations.
  4. in the valleys.
- B.** Looking at these maps, I can say that rivers in California tend to run towards:
1. Nevada
  2. the Pacific Ocean
  3. Oregon
  4. the Sierra Nevada Mountains
- C.** Looking at Maps #1 and #6 and using what I learned from the last two questions, I can say that the major natural force involved in where water flows is:
1. wind
  2. gravity
  3. pumps
  4. erosion
- III.** Compare Map #6 with Map #2 and answer the following questions. (Circle the number of the answer you choose.)
- A.** Lake Shasta (#1) is located near:
1. Death Valley
  2. the San Bernardino Mountains
  3. the Salton Sea
  4. the Cascade Range



# 6

## Managing California's Water

# questions

- B.** Lake Oroville (#3) and Folsom Lake (#5) are located near the:
1. Salinas Valley
  2. Owens Valley
  3. Sierra Nevada Mountains
  4. San Jacinto Mountains
- C.** The Sacramento River (#2), the Feather River (#4), the American River (#6) and the San Joaquin River (#7) all flow towards:
1. Mono Lake
  2. the Peninsular Ranges
  3. the Delta
  4. Lake Tahoe
- D.** The Hetch Hetchy Aqueduct (#13) carries water to the city of:
1. Eureka
  2. Fresno
  3. San Francisco
  4. San Diego
- E.** The California Aqueduct (#14), which is part of the State Water Project, carries water south to the San Joaquin Valley and Southern California. To reach Southern California, the water must be pumped over the:
1. Klamath Mountains
  2. Cascade Range
  3. Santa Lucia Mountains
  4. Tehachapi Mountains
- F.** The Los Angeles Aqueduct (#15) carries water south through the:
1. Napa Valley
  2. Owens Valley
  3. Sacramento Valley
  4. Salinas Valley
- G.** The Colorado River Aqueduct (#16) carries water from the Colorado River across the:
1. Sacramento Valley
  2. San Joaquin Valley
  3. Sierra Nevada Mountains
  4. Mojave Desert

# 6

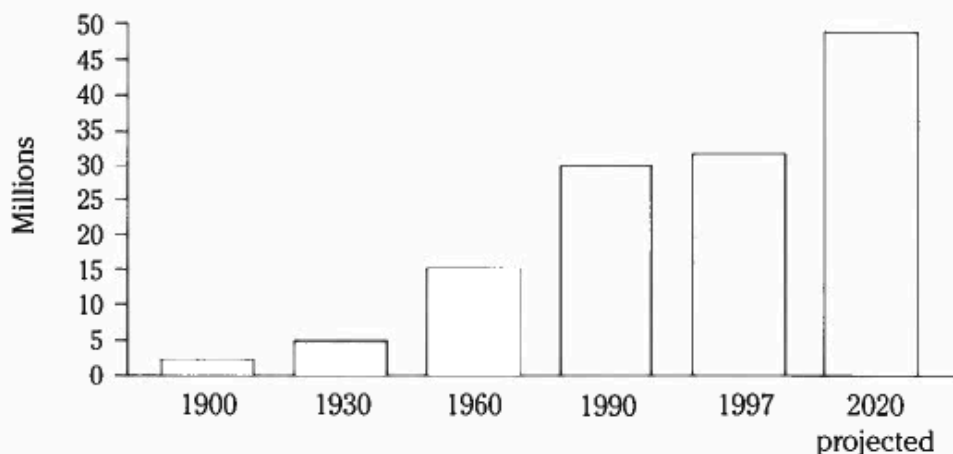
## Managing California's Water

# questions

- H.** The California Aqueduct (#14) splits into two branches in Southern California. The direction it travels to reach Lake Perris (#18) is \_\_\_\_\_ and to reach Castaic Lake (#17) it goes \_\_\_\_\_.
- IV.** Compare Map #6 with Map #3 and answer the following questions. (Circle the number of the answer you choose.)
- A.** The aqueduct which carries precipitation collected from the west side of the Sierra Nevada Mountains is the:
1. Colorado River Aqueduct
  2. Mokelumne Aqueduct
  3. California Aqueduct
  4. Los Angeles Aqueduct
- B.** Much of the precipitation in Northern California is collected in:
1. Lake Perris
  2. the Salton Sea
  3. Lake Shasta
  4. Lake Havasu
- C.** A lot of the precipitation which is collected in California is carried by aqueducts in which two general directions?  
\_\_\_\_\_
- V.** Compare Map #6 with Map #4 and answer the following questions.
- A.** List the aqueducts which carry water to help support the large population of Southern California.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- B.** Of the least populated counties on the map none require aqueducts to import water. (Circle True or False.)
1. True
  2. False
- C.** The Mokelumne Aqueduct carries a portion of its water to which of California's most populated counties?  
\_\_\_\_\_

## Managing California's Water

- D.** California's population increased significantly in the last 100 years and is expected to continue increasing. This makes managing California's water supply even more important and more challenging.
- Color the columns (bars) below to show how the population of our state has increased.



- Use a ruler to find the exact population for each year and write the figure below the column.
- How old will you be in the year 2020?

\_\_\_\_\_

**VI.** Compare Map #6 to Map #5 and answer the following questions.

- A.** Match the counties on the left with the water delivery systems on the right: (Write the correct letters in the spaces provided.)
- |  |                        |
|--|------------------------|
| ___ 1. water for industry in Alameda County      | a. Mokelumne Aqueduct  |
| ___ 2. water for agriculture in Riverside County | b. California Aqueduct |
| ___ 3. water for agriculture in Kern County      | c. All American Canal  |
| ___ 4. water for agriculture in Imperial County  | d. Coachella Canal     |
- B.** The Colorado River Aqueduct helps provide water for homes, industry and agriculture in Southern California. The aqueduct begins at Lake \_\_\_\_\_ and ends at the Eastside Reservoir Project and Lake \_\_\_\_\_.



# 6

# questions

## Managing California's Water

- C.** If water delivery systems (aqueducts and canals) did not carry water to various regions of California, and water was not properly managed, what would happen to California's economy? (Circle True or False.)
1. The economy would still be strong.                      True      False
  2. There would be less agricultural production.      True      False
  3. There would be less industrial expansion.          True      False
  4. The population could continue to grow.            True      False
- D.** No matter where I live in California, the most important thing I can do to contribute to the efficient management of water resources is

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